REMARKS

Claims 1, 8, 10, 12, 21-23 and 25 are pending. The claims are not amended in this response.

102 Rejections

The instant Office Action states that Claims 1, 8, 10, 12, 21-23 and 25 are rejected under 35 U.S.C. § 102(e) as being anticipated by Weimer et al. ("Weimer;" U.S. Patent No. 6,348,380). The Applicants have reviewed the cited reference and respectfully submit that the present invention as recited in Claims 1, 8, 10, 12, 21-23 and 25 is not anticipated by Weimer.

According to the instant Office Action, the Examiner relies on, for example, column 10, lines 1-22, of Weimer, which describes using dilute steam ambient oxidation to form additional oxide at each oxide-silicon interface. Using the structure of Weimer as a reference, such interfaces occur between Ta_2O_5 layer 230 and silicon substrate 220 (as mentioned in the Office Action), and between Ta_2O_5 layer 230 and silicon floating gate 250 (also mentioned in the Office Action). However, the Office Action fails to mention that the dilute steam ambient oxidation yields additional oxide at the oxide layers of ONO layer 260, as described at column 10, lines 23-28, of Weimer.

Weimer discloses that the structure is exposed to dilute steam ambient oxidation after patterning and etching of the gate stack 270 (please refer to Figure 6 of Weimer). Importantly, Applicants respectively assert that Weimer does not show or suggest that a dilute steam oxidation environment can be selectively applied to some layers of a structure but not other layers of the structure.

Because, according to Weimer, dilute steam ambient oxidation is not applied discriminately, when dilute steam ambient oxidation is applied to the structure described by Weimer, the following structure will result (in order): a substrate 220; a first layer comprising a silicon material (silicon oxide layer formed by thermal oxidation at the interface between Ta_2O_5 layer 230 and silicon substrate 220); a dielectric layer 230; a second layer comprising a silicon material (silicon oxide layer formed by thermal oxidation at the interface between Ta_2O_5 layer 230 and silicon floating gate 250); a floating gate 250; a third layer comprising a silicon material (silicon oxide layer formed by thermal oxidation at the interface between polysilicon floating gate 250 and ONO layer 260); ONO layer 260; a fourth layer comprising a silicon material (silicon oxide layer formed by thermal oxidation at the interface between ONO layer 260 and polysilicon control gate 270); and control gate 270.

Applicants respectfully submit that the present claimed invention does not include the "third layer" and "fourth layer" mentioned above. Specifically, according to independent Claims 1, 10 and 21, the ONO layer adjoins the floating gate (that is, the ONO layer and floating gate are not separated by the intervening "third layer" mentioned above), and the control gate adjoins the ONO layer (that is, the control gate and the ONO layer are not separated by the intervening "fourth layer" mentioned above).

Furthermore, according to independent Claim 1, the floating gate adjoins the dielectric layer (that is, the floating gate and the dielectric layer are not separated by the intervening "second layer" mentioned above).

Moreover, according to independent Claim 10, the tunnel oxide layer adjoins the substrate (that is, the tunnel oxide layer and the substrate are not separated by the intervening "first layer" mentioned above).

According to the Federal Circuit, "[a]nticipation requires the disclosure in a single prior art reference of each claim under consideration" (W.L. Gore & Assocs. v. Garlock Inc., 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983)). However, it is not sufficient that the reference recites all the claimed elements. As stated by the Federal Circuit, the prior art reference must disclose each element of the claimed invention "arranged as in the claim" (emphases added; Lindermann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984)).

Applicants respectfully submit that Weimer does not show or suggest the structures recited in independent Claims 1, 10 and 21. Therefore, Applicants respectfully submit that Weimer does not anticipate the limitations of independent Claims 1, 10 and 21 and that these claims are in condition for allowance. Claims 8, 12, 22-23 and 25 depend from Claim 1, 10 or 21 and recite additional limitations, and as such Applicants respectfully submit that Claims 8, 12, 22-23 and 25 are also in condition for allowance.

In summary, Applicants respectfully submit that the basis for rejecting Claims 1, 8, 10, 12, 21-23 and 25 under 35 U.S.C. § 102(e) is traversed.

Conclusions

In light of the above remarks, Applicants respectfully request reconsideration of the rejected claims.

Based on the arguments presented above, Applicants respectfully assert that Claims 1, 8, 10, 12, 21-23 and 25 overcome the rejections of record, and therefore Applicants respectfully solicit allowance of these claims.

The Examiner is invited to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,
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